

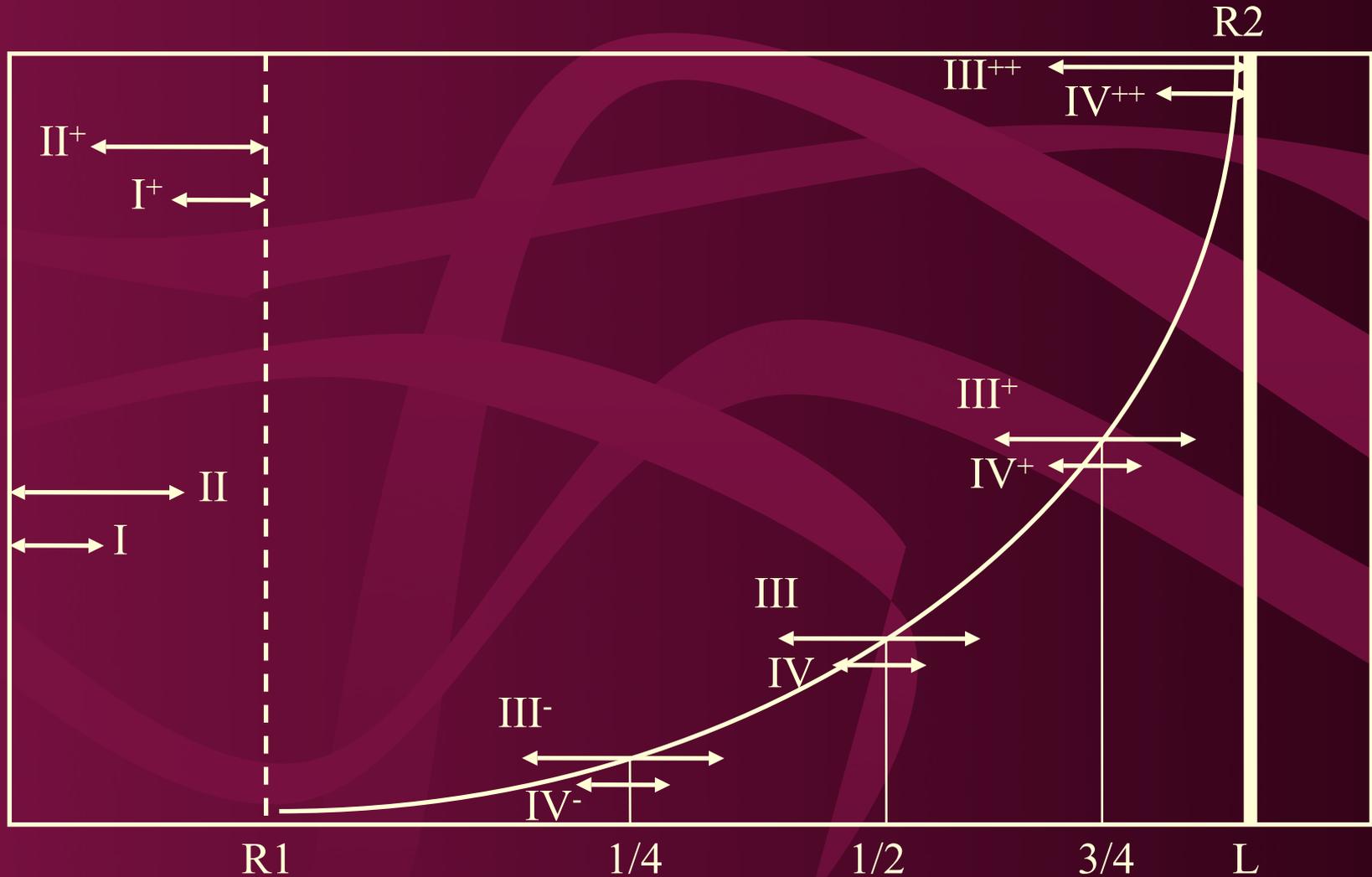
# Manual Therapy Techniques for the Lower Extremities

## 4-Corners OIG

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# Grades of Mobilization

*G. D. Maitland*



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<u>GRADE</u>	<u>DESCRIPTION</u>
I	Small amplitude out of resistance (R1)
II	Large amplitude out of resistance
III	Large amplitude into resistance
IV	Small amplitude into resistance

III- or IV- performed at 25% into restricted range

III or IV performed at 50% into restricted range

III+ or IV+ performed at 75% into restricted range

III++ or IV++ performed at restricted barrier (R2)

Grades I and II used to treat pain prior to reaching resistance

Grades III and IV used to treat resistance (joint restrictions) when pain is not a limitation

# Mobilization Principles

*G. D. Maitland; P. E. Greenman*



- Patient must be completely relaxed
- Operator must be relaxed
- Patient must have complete confidence in the therapist
- Embrace the joint to be moved, hold with a *relaxed* grasp
- Move one joint, one direction at one time
- Patient must be confident that the joint will not be hurt
- Operator's position must be comfortable and easy to maintain
- Operator's position must afford him/her complete control

# Hip Techniques

## ➤ Flexion

- Grades II – III
- Grade IV

## ➤ Flexion/Adduction

- Grade IV

## ➤ Medial Rotation

- Supine in flexion
- Prone in extension

## ➤ Caudal Glides

- Supine Grades I – II
- Supine Grades III – IV

## ➤ Lateral Glides

- Supine Grades III – IV

## ➤ Prone PA

- Grades III - IV

# Hip Flexion – Grades II & III

- **Patient position: Supine**
- **Therapist position**
  - Proximal hand: Supports and guides the patient's knee.
  - Distal hand: Grasps the plantar aspect of the foot to stabilize the ankle and guide the mobilization.
- **Mobilization technique**
  - Use both hands to bring the patient's hip into flexion. Assess for pain response and/or motion restrictions.
  - Apply large-amplitude oscillations of at least 30° out of resistance (grade II) or into resistance (grade III).



# Hip Flexion – Grade IV



- **Patient position**
  - Supine, hip flexed to 90° and knee allowed to fully flex
- **Therapist position**
  - Use both hands to cup the knee
  - Tuck the patient's leg between your arm and body. Lean your body into the patient's leg, bringing your chin by your hands
- **Mobilization techniques**
  - Flex the patient's hip into resistance.
  - Mobilize the hip into further flexion by gently leaning into the patient's leg with your body.
  - Use your hands to impart a “scooping” motion at end range.
  - Maintain the leg in neutral rotation.

# Hip Flexion/Adduction (Quadrant) – Grade IV



## ➤ Patient position

- Supine, hip flexed to 90° and knee allowed to fully flex

## ➤ Therapist position

- Interlock fingers of both hands and cup the knee
- Maintain balance with your more distal knee on plinth
- Lean body against patient's lateral femur; chin by your hands

## ➤ Mobilization techniques

- Adduct the flexed knee until ilium begins to raise
  - 1) Mobilize into further adduction; perform in various degrees of increased hip flexion
  - 2) Mobilize with downward pressure through the knee in line with femur
  - 3) Mobilize using an arcing motion of combined flexion and adduction

# Medial Rotation – Supine, Grade IV



- **Patient position**
  - Supine near the edge of plinth, hip and knee flexed to 90°.
- **Therapist position**
  - Use both hands to grasp the patient's distal thigh
  - Tuck the patient's leg between your arm and body.
- **Mobilization techniques**
  - Medially rotate the patient's hip into resistance.
  - Mobilize the hip into further medial rotation by gently shifting your body weight laterally.
  - Use your hands to maintain the thigh perpendicular to plinth.

# Medial Rotation – Prone, Grade IV



## ➤ Patient position

- Prone, knee flexed to 90°

## ➤ Therapist position

- Distal hand: Grasps the plantar aspect of the foot to stabilize the ankle and leg.
- Proximal hand: Rests on the contralateral pelvis/buttock.

## ➤ Mobilization technique

- Use the distal hand to bring the hip into enough medial rotation for the contralateral ilium to raise 1-2” from table.
- Stabilize the distal leg in this position.
- Apply graded medial rotation mobilizations by pushing downward (posteroanterior) on the contralateral buttock.

# Caudal Glides – Supine Grades I and II



## ➤ Patient position

- Supine, knee slightly flexed and supported on therapist's thigh

## ➤ Therapist position

- Place your more distal leg in a kneeling position on the plinth. Align your thigh diagonally under the patient's knee.
- Hands encircle the patient's distal thigh

## ➤ Mobilization technique

- Oscillatory caudal mobilizations are produced by a combination of: 1) gentle pulling on the femur and 2) lateral rotation or sliding of your hip/thigh.
- Grade I mobilizations can be accomplished with only your hip movement and no hand contact.

# Caudal Glides – Supine Grades III and IV



## ➤ Patient position

- Supine near the edge of plinth, hip flexed to 90° and knee allowed to fully flex

## ➤ Therapist position

- Use both hands to cup the knee
- Tuck the patient's leg between your arm and body.
- Position mobilization belt pad in patient's hip crease; strap belt around your hips.

## ➤ Mobilization techniques

- Flex the patient's hip into resistance.
- Apply graded caudal mobilizations by using a rocking motion with your body.
- Adjust the amount of hip flexion, rotation, and adduction to find the optimal position for mobilization.

# Lateral Glides – Supine Grades III and IV



## ➤ Patient position

- Supine near the edge of plinth, hip flexed to 90° and knee allowed to fully flex

## ➤ Therapist position

- Use both hands to cup the knee
- Position mobilization belt pad in patient's hip crease; strap belt around your hips.

## ➤ Mobilization techniques

- Flex the patient's hip into resistance.
- Apply graded lateral mobilizations by using a rocking motion with your body.
- Adjust the amount of hip flexion, rotation, and adduction to find the optimal position for mobilization.

# Posterior-Anterior Glides – in Hip F / ABD / ER position



## ➤ Patient position

- Prone; hip in varying degrees of flexion, abduction, and external rotation (low crawl position).
- Ankle may rest on contralateral leg

## ➤ Therapist position

- Place both hands over posterior proximal femur, distal to hip joint.
- Position yourself directly over hip.

## ➤ Mobilization technique

- Use your body to apply graded mobilizations to the hip joint. Direction of force is posterior to anterior with a slight medial inclination.
- Vary the direction of force based on stiffness and patient response.
- May use pillow under patient's trunk to decrease the amount of abduction needed.